COMMUNITY AFFAIRS

DIVISION OF CODES AND STANDARDS

Uniform Construction Code

Building and Electrical Subcodes

Adopted Amendments: N.J.A.C. 5:23-2.15, 2.18, 2.20, 3.14, 3.16, 3.21, and 12.12

Proposed: December 16, 2002 at 34 N.J.R. 4248(a)

Adopted: , 2003 by Susan Bass Levin, Commissioner, Department of Community Affairs

Filed: , 2003 as R. 2003, d. **with substantive and technical changes** not requiring additional public notice or comment (see N.J.A.C. 1:30-6) except that the proposed new N.J.A.C. 5:23-3.21(b) shall not be adopted at this time.

Authority: N.J.S.A. 52:27D-124.

Effective Date: , 2003.

Expiration Date: January 15, 2008.

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SUSAN BASS LEVIN,
Commissioner

Summary of Public Comments and Agency Response:

The Department received comments from Alfred N. Arrezo, Construction Official, Building Subcode Official, and Building Inspector H.H.S., City of Hoboken; John Beslanovitz, Fire Official, Hazlet Township; Shawn Cai, Giovanetti Shulman Associates; Shawn P. Canfield, Product Manager, Isolatek International; Tom Caruso, Fire Inspector, City of Long Branch; Bob Corby, Construction Official, Washington Township; Aram Damadian, AIA, Vice President, Design & Construction, V.S. Hovnanian Group; Robert J. Davidson, Fire Marshal, South Brunswick Township; Raymond F. Di Lello, Professional Fire Fighter/Fire Inspector; James T. Dollard, Jr.,

Apprentice Training for the Electrical Industry; James C. Dollins, President, National Armored Cable Manufacturers Association; William J. Doolittle, Building Subcode Official, Township of Neptune; John A. Fearirheller, Jr., P.E., P.P., CME., Walker, Previti, Holmes and Associates; Morton Gudel, Fire Protection Subcode Official, Fire Official, and Housing Inspector; Rodney L. Hardison, Assistant Manager, Fire Retardants, Arch Wood Protection; Kevin J. Hayes, Sr., Director of Building and Development and Fire Official, City of Long Branch; David E. Herbert, C.P.M., Fire Marshal, East Brunswick Fire District #1; Joseph T. Holland III, Hoover Treated Wood Products, Inc.; Jonathan Humble, AIA, American Iron and Steel Institute; Edward G. King, Jr., President, Wood Construction Technologies, Inc.; William H. King, Jr., Chief Engineer for Electrical and Fire Safety, Directorate for Engineering Sciences, United States Consumer Product Safety Commission; Michael A. Lennox, Fire Inspector, Manalapan Township; Robert Lewis, Lieutenant, Howell Fire Bureau, Howell Township; Theodore F. Lewis, Jr., AIA, Council President, Eatontown Borough, Construction Official, City of Long Branch, and Construction Official, Borough of Monmouth Beach; William J. Lynn, Fire Subcode Official, Borough of Paramus; Henry J. Mader, Consultant, Arch Wood Protection; Alan Manche, P.E., Manager, Industry Standards, Square D Company; Vito W. Marra, Fire Marshal, Borough of Shrewsbury; Stanley A. Midose, Building/Fire Protection Inspector, City of Long Branch; Carole M. Milazza, Government Relations, National Association of State Fire Marshals; Ray A. Miller, Code Consultant; Kenneth D. Narod, Electrical Contractor; Patrick J. O'Keefe, President, New Jersey Builders Association; John P. Pravin, Fire Marshal, Ocean Township Fire District #2; John P. Rowe, Fire Subcode Official, Township of Wall; Paul Rye, Fire Subcode Official, Borough of Monmouth Beach; B. Sashaw; Stanley J. Sickels, Construction Official, Borough of Red Bank; Thomas H. Siciliano III, Fire Inspector, City of Long Branch; Richard A. Soltis, Jr.; H. Brooke Stauffer, Executive Director, Standards & Safety, National Electrical Contractors Association; Victor V. Timparano, Municipal Electrical Inspectors Association of New Jersey; J.R. Virinich, Fire Retardants, Arch Wood Protection; Paul N. Vitale, Electrical Subcode Official, Ocean Township; Ronald R. Walker, Consultant; Django Weigers, Construction Official/ Fire Subcode Official, Ocean Township, Fire Chief, Ocean Township District #2; Gary Weiss, Fire Subcode Official, Manalapan Township; and Christian G. Williams, Inspector.

Uniform Construction Code (N.J.A.C. 5:23)

1. COMMENT: The Uniform Construction Code (UCC) Act provides for a six-month grace period for when an adopted code becomes effective. Generally speaking, this six-month transition period provides sufficient time for the implementation of new code requirements. However, when changes to the code are extensive, such as those that are proposed to the 2000 edition of the International Building Code (IBC/2000) and the IRC/2000, an extended grace period might be needed to allow for the training of design professionals and code enforcement personnel who are crucial to the success of the UCC. In addition, an extended grace period would provide adequate time for code users to purchase the required codebooks. Therefore, the Department should extend the grace period for the IBC/2000 and IRC/2000 as it did with the adoption of the 1995 edition of the Council of American Building Officials Model Energy Code and the 1999 edition of

the American Society of Heating, Refrigeration, and Air Conditioning Engineers 90.1, the energy subcode of the UCC.
RESPONSE: The Department thanks the commenter. However, the Department believes that because design professionals and code enforcement personnel have been given substantial notice that the IBC/2000 and IRC/2000 would be proposed for adoption in New Jersey and because there are no considerable differences between the Department's proposal and the codes published by the International Code Council (ICC), an extended grace period for design professionals and code enforcement personnel to acclimatize is not necessary. Therefore, the IBC/2000 and IRC/2000 shall become effective six months after the date the rule is published as an adoption.

2. COMMENT: Because the Department is planning to publish New Jersey editions of the IBC/2000 and IRC/2000, a "users group" should be formed to provide advice to the Department on formatting the New Jersey editions to ensure that code users can use the codebooks proficiently.
RESPONSE: The Department believes that forming a "users group" is not necessary. The format of the New Jersey editions of the IBC/2000 and IRC/2000 will follow the format of the codes published by the ICC. Changes to the original text of the IBC/2000 and IRC/2000 will be indicated by double bars in the margin, which is a standard formatting procedure designating the differences between a model code and the code as it is amended and adopted for use in New Jersey.

3. COMMENT: At N.J.A.C. 5:23-2.15(e)1x and (e)1x(1), the rule includes a provision currently contained in the IBC/2000 that the design professional include a list of deferred submittals in the permit application and upon subsequent submission of the deferred submittals, that the design professional certify that all documents have been reviewed and found to be in conformance with the regulations for the design of the building. This provision could be construed to mean that design professionals are required to review and certify the ratings of individual products or appliances. Prior to the adoption of this provision, the Department should draft a Formal Technical Opinion to provide guidance on documents that are required to be reviewed for conformance with the regulations and the degree to which design professionals should rely on third-party certifications. At a minimum, N.J.A.C. 5:23-2.15(e)1x should be amended to include the phrase "When submitting for partial approval" at the beginning of the text. In addition, N.J.A.C. 5:23-2.15(e)1x(1) should be amended to clarify that "subsequently submitted design" documents shall be reviewed by the design professional for conformance with the regulations for the design of the building.
RESPONSE: The Department agrees that providing clarification on the intent of the requirements at N.J.A.C. 5:23-2.15(e)1x and (e)1x(1) is beneficial to code users. Upon adoption, N.J.A.C. 5:23-2.15(e)1x shall be modified to replace the term "design" with "plans" and will revise the language to make it clear that design professionals are required to list all portions of the plans that are not submitted at the time of application. In addition, N.J.A.C. 5:23-2.15(e)1x(1) shall be modified to insert "prepared by people other than the design professional" after the term "documents" to require that design professionals verify that deferred submittals prepared by others conform with the building design and the regulations.

4. COMMENT: At N.J.A.C. 5:23-2.20(b), the rule provides for a special inspector only for Class I buildings. The rule should be modified to allow code officials to require special inspections for Class II and Class III buildings. Class II and Class III includes smaller buildings that may have significant engineering design issues for the placement, attachment, and installation of critical elements beyond a code official's experience. Special inspections for those classes of buildings will expedite the inspection process because code officials will not have to request engineering reviews and reports, which slows construction, thereby extending the project completion date. The Department should provide a qualifying list of special inspections that would apply to Class II and Class III buildings.
RESPONSE: The IBC/2000 at Section 1704, entitled "Special Inspections," contains extensive provisions for special inspections. Because New Jersey's code officials regularly perform many of the inspections listed in the IBC/2000, the Department believes that special inspections as addressed in Section 1704 should be required only for Class I buildings. Class I includes very large buildings with unique structural designs that warrant the need for additional inspections. These provisions are codified at N.J.A.C. 5:23-2.20(b). When the design of a Class II or Class III building is beyond the experience of a code official, the applicable section is N.J.A.C. 5:23-2.18(b)iv, which has been amended to avoid confusion with the section on special inspections and to make it clear that the code official may request "additional" inspections for Class II or Class III buildings as needed. The Department thanks the commenter for pointing out this potential confusion.

5. COMMENT: The cross-references to the 1996 BOCA National Building Code in the fire protection subcode (N.J.A.C. 5:23-3.17) should be updated to the appropriate IBC/2000 cross-references.
RESPONSE: The Department thanks the commenter. The omission of updated cross-references to the IBC/2000 in the fire protection subcode was an oversight. The changes to the fire protection subcode that reflect the appropriate IBC/2000 cross-references were published as a proposal in the *New Jersey Register* on March 6, 2003.

2000 International Building Code (IBC/2000)

6. COMMENT: At N.J.A.C. 5:23-3.14(b)4vii, the rule revises the residential definitions of the IBC/2000, including the definition for "therapeutic residence." How does the proposed definition fall in line with the "Oxford House" ruling and the current situation in Camden County?
RESPONSE: During the Department's review of the IBC/2000, it was determined that the residential definitions of the IBC/2000 were not completely in accordance with New Jersey law. Therefore, the Department proposed changes to the residential definitions in the IBC/2000, including the definition of "therapeutic residence." The designation of a use group for a building or structure is made on a case-by-case basis based on the application before the local enforcing agency. The Oxford House may or may not be considered a therapeutic residence as defined in the rule.

7. COMMENT: At N.J.A.C. 5:23-3.14(b)6i, the Department proposed that Table 503 of the IBC/2000, entitled "Allowable Heights and Building Areas," be amended to

delete the height and area limitations for Use Group A-5 construction of Types IIIB, IV, and VB. In addition, Table 503 of the IBC/2000 allows for increases in height of up to two stories beyond the limits allowed by the height and area table of the 1996 BOCA National Building Code. The commenters believe that these provisions could jeopardize the life safety of building occupants and create additional challenges for fire fighters. Therefore, the commenters recommended that to ensure that there is no reduction in life safety, Table 503 of the IBC/2000 be revised to retain the number of stories allowed by the 1996 BOCA National Building Code.
RESPONSE: The Department agrees with the commenters and Table 503 of the IBC/2000 shall be revised upon adoption to retain the number of stories allowed by the height and area table of the 1996 BOCA National Building Code and continuing the story standards now in effect.

8. COMMENT: At N.J.A.C. 5:23-3.14(b)6i, the rule deletes the height and area limitations for Use Group A-5 construction of Types IIIB, IV, and VB in Table 503 of the IBC/2000, entitled "Allowable Heights and Building Areas." However, Table 503 allows the construction of amusement park structures, bleachers, grandstands, and stadiums of Types IIB, IIIA, and VA of unlimited height and area, which presents a substantial fire hazard as evidenced by the 1985 stadium fire in Bradford, England, which resulted in 56 deaths. Use Group A-5 should be deleted from Table 503 to limit the construction of the above-mentioned structures to noncombustible construction.
RESPONSE: The Department believes that this issue is complex and that a wholesale prohibition of the use of wood for all structures of Group A-5 does not address the problem well. The major issue is the size of the structure. The resolution to the question "How big is too big?" should be addressed through the code change process. Although it is clear there should be limits on the size of wood-frame bleachers and stadiums, it is not clear exactly where those limits should be. As a practical matter, the size of a wood-frame bleacher or stadium is controlled by other code requirements that address other uses, such as mercantile areas, that are commonly part of large stadiums. The Department will undertake a project to research and review any national standards that deal with the construction of bleachers and stadiums and will make a determination as to whether there is a standard that would be appropriate for this use. Such an initiative will take some time and will require a new rule proposal. While this review is being undertaken, the Department believes that the code in its entirety protects life safety and controls the size of wood-frame Group A-5 structures. However, in order to ensure that wood-frame structures of Group A-5 constructed under the IBC/2000 do not exceed the heights and areas allowed by the 1996 BOCA National Building Code, construction Type VA shall be deleted from Table 503 of the IBC/2000 for that use.

9. COMMENT: Table 503 of the IBC/2000 allows Use Group R-3 buildings to be constructed of Type VB wood frame construction, three stories in height, and unlimited in area. The 1996 BOCA National Building Code limits the construction of one- and two-family dwellings of Type VB construction to two stories in height and 4,800 square feet per floor in area.
RESPONSE: This comment is not correct. The construction of one- and two-family dwellings was not limited in the BOCA National Building Code in the way the

commenter describes. The height and area table in BOCA establishes the base tabular area. BOCA permitted increases in the base tabular area based upon the application of other code requirements, including open perimeter, sprinklers, or construction type. In addition, a third story is currently allowed subject to the habitable attic limitations. As an example of the impact of these provisions, when only the open perimeter provision of 30 feet is applied to the base tabular area in BOCA, the adjusted tabular area allows the building to be 12,000 square feet per floor. The commenter made this same comment about the International Residential Code. A more substantive response to this same issue can be found more appropriately at Comment 27.

10. COMMENT: Section 506.3 of the IBC/2000 should be amended to retain the current building subcode area increases of 200 percent and 100 percent for one- and two-story buildings and buildings more than two stories in height, respectively. The reduction in fires, fire-related deaths, and property loss can be attributed to the improvements made to building codes with the use of both passive and active fire protection systems in combination. The adoption of Section 506.3 of the IBC/2000, as written, will only reverse this trend.

RESPONSE: The Department reviewed the height and area requirements of the IBC/2000 in detail. As part of this review, the increases in the base tabular areas provided in Table 503 of the IBC/2000 were discussed. It was determined that the area increases in Table 503 should be adopted without amendment because the IBC/2000 maintains the current level of life safety by establishing a threshold for suppression. Specifically, Section 506.3 of the IBC/2000 allows the construction of bigger buildings provided the buildings are suppressed, which illustrates that the increases in area are proportionate to the increases in life safety features required in buildings. In addition, when the three national model code organizations (BOCA, the International Council of Building Officials, and the Southern Building Code Congress International) joined to publish the IBC/2000, a single set of national model codes, these national code experts determined that to balance the risk of fire in bigger buildings, buildings should be equipped with sprinklers. The relative value of active and passive fire protection systems is appropriately directed to the national code change process. The Department thanks the commenter. However, no change shall be made to Section 506.3 of the IBC/2000 upon adoption.

11. COMMENT: At N.J.A.C. 5:23-3.14(b)6iii, the rule requires that unlimited height and area, two-story buildings be constructed of noncombustible materials. While the Department is not extending the requirements of Section 507.3 of the IBC/2000, entitled "Two story," to buildings of combustible construction, the adoption of this section would allow the construction of noncombustible, unlimited area, two-story buildings, which compromises the life safety of building occupants and fire department personnel. Therefore, Section 507.3 of the IBC/2000 should be deleted in its entirety to enhance public safety.

RESPONSE: The IBC/2000 allows the construction of unlimited area, two-story buildings of any construction type. The 1996 BOCA National Building Code allows the construction of unlimited, one-story buildings of combustible construction, but does not allow the construction of unlimited area, two-story buildings. The Department has

determined that it is reasonable to allow the construction of two-story, unlimited area buildings provided they are constructed of noncombustible materials. In addition to the protection afforded to building occupants and fire department personnel through the use of noncombustible materials, protection in these buildings is enhanced by the requirements for open perimeter in the IBC/2000. Under the 1996 BOCA National Building Code, stand-alone buildings are required to be surrounded by thirty feet of open perimeter suitable for fire fighting operations. The IBC/2000 requires sixty feet of open perimeter. The Department believes that the requirement that two-story buildings of unlimited area be constructed of noncombustible materials coupled with the requirement for thirty additional feet of open perimeter not only maintains life safety for building occupants and fire department personnel, but enhances it. The Department believes that the commenter has not provided sufficient technical justification for deleting Section 507.3 of the IBC/2000 in its entirety. Therefore, Section 507.3 shall be adopted as proposed.

12. COMMENT: At N.J.A.C. 5:23-3.14(b)7ii, the rule deletes the provision in Section 602.3 of the IBC/2000, entitled "Type III," that fire retardant treated wood framing be allowed within exterior wall assemblies with a two-hour fire resistance rating. The use of fire retardant treated wood in two-hour exterior walls in Type III buildings is a proven alternative construction method that can resolve certain design problems and achieve significant economies. Therefore, Section 602.3 of the IBC/2000 should be adopted without amendment.
RESPONSE: The 1996 BOCA National Building Code, in conjunction with Formal Technical Opinion 14 of the Uniform Construction Code, requires the use of noncombustible materials with the same structural properties as concrete or concrete masonry units in exterior walls of buildings of Type III construction. The use of fire retardant treated wood does not comply with this standard. Therefore, to retain the level of life safety currently provided to building occupants, no change shall be made upon adoption.

13. COMMENT: Section 903.2.11 of the IBC/2000, entitled "Group S-2," should be revised to clarify that the term "or" only applies to an enclosed parking garage, and not to all Use Group S-2 occupancies. In addition, this section should be amended to include an area limitation for when an enclosed garage must be sprinklered. The 1996 BOCA National Building Code requires an area limitation of 12,000 square feet. Without a comparable area limitation in the IBC/2000, small parking garages located under two-level residential buildings would require sprinklers.
RESPONSE: The Department believes that the use of the term "or" in Section 903.2.11 of the IBC/2000 clearly requires that automatic sprinkler systems must be provided when an enclosed parking garage (and not all occupancies of Group S-2) is located beneath other occupancies and that further clarification of this section is not needed. Sprinklers are required because enclosed parking garages do not allow the dissipation of smoke and hot gasses as readily as do open parking structures. This reasoning applies equally to enclosed parking garages under multifamily residential structures as to other occupancies. No data have been provided to show that enclosed parking garages under two-story

multifamily residential structures present a lower hazard. Therefore, no changes shall be made to Section 903.2.11 of the IBC/2000 upon adoption.

14. COMMENT: At N.J.A.C. 5:23-3.14(b)9v, the rule inserts a new Section 903.2.16, entitled "Automatic sprinkler system thresholds," and a new table to provide a sprinkler system threshold for Use Groups B, F-2, and S-2 of construction Types IIB, IIIB, and VB. These amendments are all-encompassing regarding the Use Group S-2 occupancies and appear to contradict the specific provisions concerning occupancies that have been exempted from the automatic sprinkler provisions. For example, open parking structures constructed of noncombustible materials are exempted from the automatic sprinkler provisions because they are unique in that they dissipate heat and gasses rather than contain them, they have a low fuel load, and they have a minimum opening in the envelope.

The Department should delete the automatic sprinkler system thresholds from the table for Use Group S-2 at N.J.A.C. 5:23-3.14(b)9v, and incorporate those thresholds into the text of Section 903.2.11 of the IBC/2000, entitled "Group S-2." In addition, if that amendment were made, an exemption for open parking structures should also be added.

RESPONSE: The Department thanks the commenter. Upon adoption, Table 903.2.16 shall be amended to include the provision from the 1996 BOCA National Building Code that established per floor limits for providing fire suppression. In addition, a superscript Note "a" shall be inserted after "Group S-2" to provide the exemption from installing sprinkler systems in open parking structures from the 1996 BOCA National Building Code.

15. COMMENT: The same commenter informed the Department of a proposal brought before the code development committee at the 2001 International Code Council code hearings to require that all Use Group S-2 occupancies have an automatic sprinkler system threshold. That proposal was denied based on the fact that it conflicts with other portions of the code that provide exemptions to the automatic sprinkler system requirements.

RESPONSE: The sprinkler threshold table (Table 903.2.16) that is being included in the IBC/2000 is a result of the Department's review of Table 503 of the IBC/2000 for consistency with the suppression thresholds in the 1996 BOCA National Building Code. The Department discovered that Table 503 allows the construction of unsprinklered buildings that exceed the maximum areas allowed by the 1996 BOCA National Building Code. Table 903.2.16 retains the maximum allowable area for unsprinklered buildings of Groups B, F-2, and S-2 from the 1996 BOCA National Building Code.

16. COMMENT: At N.J.A.C. 5:23-3.14(b)9viii, the rule retains the requirements for the placement of standpipes from the 1996 BOCA National Building Code with a modification to include the IBC/2000 requirement that standpipes be located every 200 feet. The 200-foot standpipe spacing requirement in the IBC/2000 is consistent with typical fire department apparatus specifications and Standard Operating Procedures. The change made by the Department brings the IBC/2000 into conformance with established fire department procedures.

RESPONSE: The Department thanks the commenters for the statement of support.

17. COMMENT: At N.J.A.C. 5:23-3.14(b)9x, the rule inserts a new Section 906, entitled "Fire Department Connections," to include the requirements for fire department connections from Section 916.0 of the 1996 BOCA National Building Code. The commenter expressed disagreement with the discussion at Issue 25 in the rule proposal, especially the requirement that one fire department connection serve an entire building. Issue 25 explained that, in addition to the cross-reference to the National Fire Protection Association (NFPA) 14 for requirements for standpipes, the IBC/2000 references NFPA 14 for fire department connections, which provides that fire department connections are allowed to serve portions of buildings (rather than the entire building) provided there is a sign designating the area. According to NFPA 14, there could be several fire department connections per floor with signs identifying which connections service which area or floor.

The commenter stated that the reason NFPA 14, at Figure A-5-1(b), shows separate fire department connections for low and high zones is because of concerns with the high pressures in the high zones. If both low and high zones are fed from a single fire department connection, the high pressure is exerted on the low zone when fire fighters pump water into the high zone. The low zone is not designed for high pressure. If any low zone component were to break under high pressure, the high zone system would not get an adequate flow of water. Therefore, the commenter believes that Section 916.2 of the 1996 BOCA National Building Code should be amended to include an exception to the low and high zone system.

RESPONSE: The Department agrees that addressing fire department connections with regard to high and low zones is beneficial in high rise buildings. Therefore, in Section 906.2 of the IBC/2000, entitled "Connections," an exception stating that fire protection systems in high rise buildings designed with a low zone and a high zone are allowed to be provided with a connection for each zone shall be inserted upon adoption to ensure consistency with NFPA 14, the applicable standard, which is referenced in the IBC/2000.

18. COMMENT: At N.J.A.C. 5:23-3.14(b)9x, the rule deletes Section 906 of the IBC/2000, entitled "Portable Fire Extinguishers." While it is true that portable fire extinguishers are under the jurisdiction of the Uniform Fire Code (N.J.A.C. 5:70), it is appropriate to retain this section of the IBC/2000 to require the installation of portable fire extinguishers as part of the construction process. The Department should coordinate the Uniform Construction Code (N.J.A.C. 5:23) with the Uniform Fire Code by retaining Section 906 of the IBC/2000. In addition, Section 906 as it currently appears in the IBC/2000 should be modified to provide that portable fire extinguishers be installed in accordance with the Uniform Fire Code.

RESPONSE: The Department thanks the commenter. However, portable fire extinguishers are under the jurisdiction of the Uniform Fire Code and the requirements of that code are not enforceable by Uniform Construction Code-licensed code officials. Therefore, Section 906 of the IBC/2000 shall be deleted upon adoption.

19. COMMENT: At N.J.A.C. 5:23-3.14(b)10iv, the rule proposes to amend Section 1004.2.2.1 of the IBC/2000, entitled "Two exit access doorways," to delete the last sentence of Exception 1. This amendment ensures that "scissor stairs" remain a design option, which encourages the development and rehabilitation of properties in urban

communities in New Jersey, such as Hoboken, while maintaining safe egress and life safety. If the last sentence of Exception 1 had been retained, construction would have been substantially retarded in developed cities. The Department's consideration of this fact clearly reinforces the fact that the Department desires to encourage the rehabilitation of New Jersey's cities.
RESPONSE: The Department thanks the commenter for the statement of support.

20. COMMENT: At N.J.A.C. 5:23-3.14(b)16vi, Section 1806.3.1 of the IBC/2000, entitled "Floors," should be retained to prevent moisture intrusion from significant ground water events.
RESPONSE: The Department did not propose that Section 1806.3.1 of the IBC/2000, entitled "Floors," be deleted in its entirety. The IBC/2000, at Section 1806.3.1, requires that floors be waterproofed by using either a membrane of rubberized asphalt, butyl rubber, or not less than sixty (60) mil polyvinyl chloride. Sixty mil polyvinyl chloride exceeds the 1996 BOCA National Building Code requirement for six (6) mil polyvinyl chloride. Therefore, the amendment to Section 1806.3.1 of the IBC/2000 shall be adopted as proposed.

21. COMMENT: N.J.A.C. 5:23-3.14(b)20iii, Item 9.1, allows ladders and steps for pools that can be secured, locked, or removed as a satisfactory option for enclosing aboveground swimming pools. The 1996 BOCA National Building Code, at Section 421.10.1, Item 10, specifically prohibits these types of stairs for aboveground pools. In the real world, ladders and/or steps are not removed or folded in the upright position when bathers are finished using the pool, so they pose a danger to the life safety of children five years of age and younger. Therefore, Item 9.1 should be deleted in its entirety.
RESPONSE: The Department thanks the commenter for pointing out this discrepancy between the IBC/2000 and the 1996 BOCA National Building Code. Item 9.1 shall be deleted upon adoption to retain the status quo. The same change is made in the IRC/2000 at N.J.A.C. 5:23-3.21(c)14.

22. COMMENT: At N.J.A.C. 5:23-3.14(b)20iii, the rule deletes Section 3109 of the IBC/2000, entitled "Swimming Pool Enclosures," and retains the current building subcode requirements for swimming pools that were contained in the 1996 BOCA National Building Code. As proposed, Section 3109.1 references only those pools on lots of one- or two-family dwellings. The reference to one- or two-family dwellings should be deleted and a list of the buildings that are scoped under the IBC/2000 should be inserted.
RESPONSE: The Department agrees with the commenter that the reference to one- and two-family dwellings should be deleted from Section 3109.1 of the IBC/2000 upon adoption. The IRC/2000 contains all the code requirements for one- and two-family dwellings. Therefore, the reference to "one and two-family dwellings" does not belong in the IBC/2000 and will be deleted upon adoption. However, there is no need to list the use groups because these provisions apply to all swimming pools constructed to the IBC/2000.

23. COMMENT: Any weather standards listed in the Department's proposal to adopt the IBC/2000 and IRC/2000 should be based on a 200-year flood. The use of the 100-year flood criteria is outmoded. Studies conducted by the Federal Emergency Management Agency (FEMA) continue to use river flows from 1900, which is evidence that FEMA's research is not based on current environmental conditions. Building codes should be written keeping in mind that storms are stronger than they have been in the past. Engineers who design to the 1900 standards need to be educated about the intense weather conditions resulting from global warming.
RESPONSE: The Department thanks the commenter. While the Department understands the commenter's concern about changing weather patterns, the requirements for flood resistant design and construction in the IBC/2000 provide for consistency with the requirements set forth by FEMA. The FEMA requirements are based on recognized national standards. Changes to the design standard should come from the national engineering societies rather than from a State agency. The Department does not have the authority to exceed Federal law in this area. Therefore, no change shall be made upon adoption.

2002 National Electrical Code (NEC/2002)

24. COMMENT: At N.J.A.C. 5:23-3.16(b)4i, the rule provides that the requirements for branch circuits at Article 210.12(B) of Article 210 of the NEC/2002, entitled "Branch Circuits," continue to be optional. Making the installation of AFCIs optional will result in homebuilders not installing AFCIs. AFCIs, when used a replacement circuit breaker, detect dangerous arc faults in homes and open the circuit before a fire starts. In addition, the cost of installing AFCIs in bedrooms as required by the NEC/2002 is insignificant compared to the price of a home. Therefore, the installation of AFCIs should be mandatory, not optional.
RESPONSE: The NEC/2002 requires that AFCIs be provided in bedrooms only. Other rooms contain the same conditions, but are not considered hazardous enough to require AFCIs. It is the condition itself, and not one kind of space containing the condition, that should be addressed by the code. The Department believes that as more knowledge is gained, and the technology becomes more readily available, AFCIs are likely to be required throughout a dwelling. Data show that most electrical fires do not start in the bedroom. In fact, data presented by one commenter state that 15% of electrical fires start in a bedroom. Therefore, the Department does not see the logic in the emphasis on AFCIs in bedrooms only. The Department believes that when AFCI technology is more widely available in a reasonable price range, the installation of AFCIs will be mandated on all circuits throughout a residence, and not just on those located in dwelling unit bedrooms. The amendment at N.J.A.C. 5:23-3.16(b)4i shall be adopted as proposed.

25. COMMENT: At N.J.A.C. 5:23-3.16(b)5ii, the rule deletes Article 334.12(A)(1) of the NEC/2002. Article 334.12(A)(1), which prohibits the use of romex cable in drop or suspended ceilings in other than one- and two-family dwellings and multifamily dwellings, was included in the NEC/2002 to protect romex cable from physical damage in structures, such as commercial buildings, where there is a greater opportunity for damage to the cable to occur. The provisions for the expanded use of romex cable, which include protection from physical damage as provided by Article 334.12(A)(1), is

fully supported by the National Fire Protection Association. Therefore, the amendment at N.J.A.C. 5:23-3.16(b)5ii should not be adopted.

RESPONSE: The Department thanks the commenter. Romex cable is a workable material that has a good track record in a number of installations over the years. Prohibiting the run of romex cable in drop or suspended ceilings in commercial buildings has no technical justification and is unnecessarily restrictive. Because the NEC/2002 contains installation requirements for romex cable that serve to protect the cable from physical damage, it is unlikely that the cables would be damaged in those types ceilings. Therefore, the proposal shall remain unchanged and Article 334.12(A)(1) of the NEC/2002 shall be deleted upon adoption.

2000 International Residential Code (IRC/2000)

26. COMMENT: At N.J.A.C. 5:23-3.21(b), the rule scopes the provisions of the IRC/2000 to apply to the construction of detached one- and two-family dwellings and multiple single-family dwellings (townhouses) that are not more than three stories in height and that have a separate means of egress. This provision should be clarified by deleting the phrase "for one- and two-family dwellings" and by inserting "of this subcode," which is the current language of the Uniform Construction Code.

RESPONSE: The Department thanks the commenter. This section of the proposal is being held for further public comment. (See the response to Comment 27.) When section N.J.A.C. 5:23-3.21(b) is adopted, the phrase "for one- and two-family dwellings" will be deleted and "of this subcode" shall be inserted to provide consistency with references to other subcodes in the Uniform Construction Code.

27. COMMENT: At N.J.A.C. 5:23-3.21(b), the rule allows detached one- and two-family dwellings and multiple single-family dwellings (townhouses) to be constructed of Type VB wood frame construction, three stories in height and unlimited in area. The current building subcode limits such structures to two stories in height and 4,800 square feet per floor in area.

RESPONSE: There are several inaccuracies in this comment that warrant correction. First, the Department refers the reader to Comment 9 for an explanation of how the base tabular area (where the 4,800 square feet per floor is found) applies to the construction of one- or two-family detached dwellings and townhouses. Second, it is inaccurate to state that under CABO townhouses are limited to two stories. CABO allows a third story subject to the habitable attic limitation. Third, the commenter appears to believe that "multiple single-family dwellings" and "townhouses" are the same building type. They are not. Although "multiple-single family dwellings" were constructed under CABO, the IRC is scoped more narrowly. The only residential buildings that may be constructed under the IRC are one- or two-family detached dwellings and townhouses. Townhouses are multi-story single-family dwellings where each dwelling is separated by a firewall, each dwelling unit has an independent entrance, and each dwelling unit structure is open (i.e. unconnected to another dwelling unit or any other structure) on two sides. This narrowed scoping of the IRC is so significant that there is a new use group designation, Group R-5, to identify buildings constructed to the IRC. In contrast, the same multiple single-family dwellings that had been constructed under CABO are allowed by the

International codes to be constructed only in conformance with the IBC, which requires those buildings to be sprinklered. This is a major step forward in life safety.

The comment is lacking in supporting data. Although the commenter opposes the change, he offers no data to support these concerns. The Department would like to be made aware of data on the difference between demonstrated life safety performance of modern single-family dwellings or townhouses that were built over the past 10 - 15 years and that were constructed to meet the BOCA National Building Code and those that were constructed to meet the Uniform Building Code, the Southern Building Code, or the CABO One- and Two- Family Dwelling Code. These codes have included the provision the commenter objects to for all of that time and have been the codes used by more than two-thirds of the nation during that period. If the commenter is correct, the data should show it.

These data are also important because the codes developed by the International Code Council (ICC) merged the provisions of the three national model building codes and the CABO One- and Two- Family Dwelling Code. This merger resulted in the International codes, which represent the consensus of national code experts on the code provisions necessary for building - and life - safety. National consensus in this area is beneficial to all code users. Acceding to the commenter's request would put New Jersey out of step with the rest of the country. Substantial data are needed to support such an action.

Because the Department did not include in its proposal any indication that it would move so far out of step with national standards, the Department has decided to reserve N.J.A.C. 5:23-3.21(b), as it applies to one- and two-family dwellings, for additional public comment. During this extended public comment period, interested parties are encouraged to provide data concerning the construction of modern single-family dwellings that demonstrate any safety difference in homes constructed in the past 10 - 15 years to the BOCA National Building Code and those constructed to the Uniform Building Code, the Southern Building Code, or to the CABO One- and Two- Family Dwelling Code.

Comments on this issue will be accepted for an additional 30 days. During this time, the existing scoping provisions contained at N.J.A.C. 5:23-3.21(b) remain in effect. (Note: N.J.A.C. 5:23-3.21(b) makes reference to Use Group R-4. Because the definition of this use group has changed with this adoption, this has been changed to Group R-5, the new designation for one- and two-family detached dwellings.) Also, it should be noted that existing N.J.A.C. 5:23-3.21(b)1, adding flood hazard provisions to CABO, is still deleted, as proposed, as part of this Notice of Adoption because the IRC contains the flood hazard provisions. This subsection is no longer necessary.

With the retention of N.J.A.C. 5:23-3.21(b) during this interim period, the existing code requirements applicable to the height and area of such buildings shall continue to apply. Specifically, the basic tabular area, and the increases allowed for open perimeter, sprinklers, or construction type shall apply. In addition, a third story of living space shall be allowed provided it meets the habitable attic requirements.

28. COMMENT: At N.J.A.C. 5:23-3.21(c)2, the rule eliminates certain definitions in the IRC/2000 that are already in the Uniform Construction Code (UCC) or that are not under the jurisdiction of the UCC. The Department should ensure that **all** the definitions

that do not apply to the one- and two-family dwelling subcode are deleted. For example, in the IRC/2000, there are definitions that relate to the plumbing, electrical, and energy subcodes that should not be included in the New Jersey edition of the IRC/2000 because they are defined in the 2000 edition of the National Standard Plumbing Code, the 2002 edition of the National Electrical Code, and 1995 Council of American Building Officials Model Energy Code, respectively. The deletion of any redundant terms would eliminate confusion in the field.
RESPONSE: The Department believes that the definitions in the IRC/2000 that appear in other model codes do not need to be deleted because their inclusion does not cause confusion or affect enforcement. Therefore, no further amendments to the definition section of the IRC/2000 shall be made upon adoption.

29. COMMENT: In Chapter 2 of the IRC/2000, entitled "Definitions," the definition of "townhouse" should be revised to eliminate the last paragraph referring to open space on at least two sides in order for side to side and back to back garden apartments to be considered townhouses.
RESPONSE: The application of the definition of "townhouse" as proposed by the commenter does not coincide with the intent of the drafters of the IRC/2000, which was to limit the application of the IRC/2000 to one- and two-family dwellings and not to cover the kind of multifamily residences described by the commenter. Accomplishing such a change would require a wholesale revision of the IRC/2000 to allow the construction of multifamily residential structures, which are more appropriately covered in the IBC/2000. Therefore, no change shall be made to the definition of "townhouse" upon adoption.

30. COMMENT: At N.J.A.C. 5:23-3.21(c)3iii, the proposed Table entitled "Climatic and Geographic Design Criteria, establishes two climatic and geographic regions. The climatic range within the proposed southern region warrants either revisions to the proposed rule or the creation of a coastal area. Specifically, the presumption of a frost line depth of two feet, six inches is excessive. The rule should not rely on the enforcing agency to establish other values because, in many cases, the enforcing agency is the Department of Community Affairs.
RESPONSE: The Department thanks the commenter. However, there are no data available to effectively evaluate the frost line depth measurement of two feet, six inches. Local enforcing agencies may establish other values when supported by local data. Therefore, the table shall be adopted as proposed.

31. COMMENT: At N.J.A.C. 5:23-3.21(c)3iii, the rule fills in the roof snow loads and wind pressure in Table R301.2(1) of the IRC/2000, entitled "Climatic and Design Criteria." In the IRC/2000 errata, the heading "Roof Snow Load" was changed to "Ground Snow Load." In addition, in the table at Note 2, the cross-reference to Figure R403.1(1) should be deleted because it does not indicate the required depth of footings. The footing depth criteria are listed in Section R403.1.4.
RESPONSE: The Department thanks the commenter for the suggested changes. Upon adoption, the heading "Roof Snow Load" shall be changed to "Ground Snow Load." In

addition, the cross-reference to Figure R403.1(1) shall be deleted and the proper cross-reference to Section R403.1.4 shall be inserted.

32. COMMENT: At N.J.A.C. 5:23-3.21(c)3viii, the rule deletes the text of Section R309.2 of the IRC/2000, entitled "Separation required," and retains the requirements for private garages found in the 1995 edition of the CABO One- and Two-Family Dwelling Code to ensure that the Department does not step backward on technical requirements. Formal Technical Opinion (FTO)-13 of the Uniform Construction Code has substantially reduced confusion in the field on garage separation requirements. Because FTO-13 contains concise and practical provisions for proper garage/dwelling unit separation, those provisions of the FTO should be included in the text of N.J.A.C. 5:23-3.21(c)3viii for clarity.
RESPONSE: The Department thanks the commenter. A reference to FTO-13 shall be included in the text of Section R309.2 of the IRC/2000.

33. COMMENT: At N.J.A.C. 5:23-3.21(c)3xiv, the rule deletes Section R315 of the IRC/2000, which contains provisions for handrails, and retains the handrail provisions of the 1995 CABO One- and Two-Family Dwelling Code (Section 315.1). The deletion of Section R315 of the IRC/2000 in its entirety leaves the code silent on handrail graspability and grip size criteria. Therefore, in addition to Section 315.1, Section 315.2 of the 1995 CABO One- and Two-Family Dwelling Code, as amended, should also be retained.
RESPONSE: Upon review of this section, the Department has determined that Section R315.2, Grip Sizes, of the IRC/2000 should be retained. The one- and two-family dwelling subcode has the same requirements; they were codified at N.J.A.C. 5:23-3.21(c)3xiii. In this adoption, the Department will retain the same grip size requirements, which are now contained in R315.2 in the IRC/2000. Adopting Section R315.2 maintains the status quo for all requirements for handrails in one- and two-family dwellings. The Department thanks the commenter.

34. COMMENT: Section R321 of the IRC/2000, entitled "Dwelling Unit Separation," requires that dwelling unit separations be a firewall with a two-hour fire resistance rating. This requirement is more stringent than the requirements of Section 310.5 of the 1996 BOCA National Building Code, which requires dwelling units to be separated by two-hour fire separation walls when based on certain area limitations. The IRC/2000 should be amended to allow the use of two-hour fire separation walls between dwelling units.
RESPONSE: The IRC/2000 contains narrower scoping than did the CABO One- and Two-Family Dwelling Code, which was amended to ensure consistency with provisions for the same buildings constructed under the BOCA National Building Code/1996. Amendments to technical code requirements to achieve consistency with the IBC/2000 (building subcode) and the IRC/2000 (one- and two-family dwelling code) are no longer necessary because their scoping is mutually exclusive. Because the IBC/2000 and the IRC/2000 were developed to operate separately, there is no overlap, and amending the text of the IRC/2000 as the commenter requested would require a wholesale revision of other code provisions deliberately included in the IRC/2000. Therefore, no change shall be made upon adoption.

35. COMMENT: Section R406.2 of the IRC/2000 recognizes hydrostatic pressure, but is silent with regard to air pressure. Waterproofed wall and floor assemblies are airtight. A rising water table outside of a perimeter footing increases the air pressure under a waterproofed floor unless relief is provided. The air relief must be bi-directional. Excessively deep waterproofed foundations in areas with fluctuating water tables and highly permeable soils have led to floor failures. The rule should be revised to include that all flood proofed structures are to be designed to resist the buoyant forces on a structure that occur with the soils during a flood event equal to the base flood elevation.
RESPONSE: The suggestions made by the commenter are not--and never have been--contained in any model code. The Department does not have the authority to create new requirements in model codes. The Department recommends that the commenter submit a code change proposal during the national model code change cycle.

36. COMMENT: At N.J.A.C. 5:23-3.21(c)5ii, the rule deletes the basic wind speed of "less than 110 mph" for Seismic Design Category D buildings and inserts a basic wind speed of "less than 120 mph" in Table R602.10.3 of the IRC/2000, entitled "Wall Bracing." This is a favorable revision that will allow the prescriptive wall bracing provisions of the IRC/2000 to be used throughout New Jersey. However, the basic wind speed of "less than 120 mph" should be limited to Seismic Design Category D1 buildings only. In addition, the demarcation line for Seismic Design Category D2 buildings and the corresponding text should be deleted from the table.
RESPONSE: The Department agrees with the commenter that the sections of the table dealing with Category D2 should be deleted because they do not apply in New Jersey. Therefore, to avoid confusion, the last row of Table R602.10.3 shall be deleted upon adoption.

37. COMMENT: At N.J.A.C. 5:23-3.21(c)12, the rule deletes Part VIII of the IRC/2000, entitled "Electrical." Part VIII, which consists of electrical provisions for residential structures, should be retained. Currently, Parts V and VI, entitled "Mechanical" and "Fuel Gas," respectively, are proposed for adoption. Part VIII should also be adopted to retain the specific electrical provisions for residential structures.
RESPONSE: The Department believes that because the provisions for residential structures in the IRC/2000 are the same as those in the NEC/2002, which is the adopted electrical subcode of the Uniform Construction Code, Part VIII should be deleted from the IRC/2000. In addition, electrical work is done by electrical contractors who are familiar with and who rely on the NEC/2002. Therefore, Part VIII shall be deleted as proposed.

38. COMMENT: The Department's proposal to adopt the IRC/2000 does not include amendments to Chapter 43, entitled "Referenced Standards," to update the 1996 edition of the National Fire Protection Association (NFPA) standard to the 1999 edition. Because this same change was made in the IBC/2000, it should also be made in the IRC/2000 for consistency.
RESPONSE: The Department agrees with the commenter. At N.J.A.C. 5:23-3.21(c)13, the change in the referenced edition from "1996" to "1999" will be made to the following NFPA standards upon adoption to ensure consistency with the standards referenced in the

IBC/2000: NFPA 13, NFPA 13D, and NFPA 13R. Other referenced standards in both the IBC/2000 and IRC/2000 will be reviewed and, where appropriate, will be the subject of a future rule proposal to adopt updated editions.

Summary of Agency-Initiated Changes

Uniform Construction Code (N.J.A.C. 5:23)

1. At N.J.A.C. 5:23-2.18(b)1, the term "insure" is changed to "ensure" for accuracy. At N.J.A.C. 5:23-2.18(b)1iv, the title of the subsection is changed to "Additional inspection schedule." In addition, in the first sentence, "or special" is deleted after the term "additional." "Special inspection" is a term of art used in the IBC/2000 and it is deleted from the UCC to eliminate conflict between the UCC and the IBC/2000. Finally, the last two sentences of the subsection dealing with Class I structures are deleted. If the designs of buildings other than Class I are complex or unusual, the code official may request additional inspections. However, special inspections as provided for in the IBC/2000 are required for Class I buildings only.

IBC/2000

2. At N.J.A.C. 5:23-3.14(b)3i, in Section 302.3.3 of the IBC/2000, entitled "Separated areas," in the second sentence of Exception 2, "or" is deleted and "of" is inserted for grammatical accuracy.

3. At N.J.A.C. 5:23-3.14(b)3viii, under Item 3, periods are inserted after "Single residential occupancies, accessory to a dwelling unit, having no more than five roomers or lodgers," "Rooming houses with five or fewer residents," and "Therapeutic residences with five or fewer residents" to provide consistency with the format of the rule.

4. At N.J.A.C. 5:23-3.14(b)6iii, in Section 507.3 of the IBC/2000, entitled "Two-story," "Use" is deleted to provide consistency with the terminology used in the IBC/2000. "Use group" is a term used in the 1996 BOCA National Building Code. The IBC/2000 uses the term "Group."

5. At N.J.A.C. 5:23-3.14(b)9iv, in Section 903.2.12.1 of the IBC/2000, entitled "Stories and basements without openings," in the first line of Item 1, "the" is changed to "that" or grammatical accuracy.

6. At N.J.A.C. 5:23-3.14(b)9v, in the table entitled, "Automatic Sprinkler System Thresholds," under construction type IIB for Groups B, F-2, and S-2, "(36,000 per floor)" is inserted after "72,000" and "99,360." Under construction type IIIB, for Group B, "(36,000 per floor)" is inserted after "99,360." In addition, under construction type IIIB for Group S-2, "(36,000 per floor)" is inserted after "72,000" and "99,360." Finally, under construction type VB for Groups F-2 and S-2, "(18,000 per floor)" is inserted after "36,000." These changes clarify the per floor limits on area that provide the threshold for requiring fire suppression.

7. At N.J.A.C. 5:23-3.14(b)9x, in Section 906.1 of the IBC/2000, under Exception 1, "applied" is deleted and "supplied" is inserted for accuracy.

8. At N.J.A.C. 5:23-3.14(b)10viii, the title of Section 1004.3.2.1 of the IBC/2000 is changed to "Corridor and passageway width." In addition, in the first sentence, "or passageway" is inserted after "corridor" to clarify that the provisions of Section 1004.3.2.1 of the IBC/2000 pertain to corridors and passageways.

9. At N.J.A.C. 5:23-3.14(b)13i, in Table 1505.1 of the IBC/2000, entitled "Minimum Roof Covering Classification for Types of Construction," Note a is deleted because the provisions refer to an Urban Wild Land Interface Code, which is not adopted for use in New Jersey.

10. At N.J.A.C. 5:23-3.14(b)14iii, a new section 1604.9, entitled General structural integrity, is inserted into the IBC/2000. The text of this new section is the text of Section 1604.2 in the BOCA National Building Code/1996. It provides a cross-reference to Section 1.4 of the American Society of Civil Engineers (ASCE) 7 technical standard for structural integrity. This section is essential to buildings designed to consider progressive collapse, which can be critical to maintaining structural integrity.

11. At N.J.A.C. 5:23-3.14(b)22, the change from "authority having jurisdiction to "construction official" is not made upon adoption. This section deals with the procedure for closing streets to deliver or arrange for the storage of materials used in construction. The "authority having jurisdiction" is the correct reference for this section because there is a municipal office charged with that responsibility.

2002 National Electrical Code (NEC/2002)

12. At N.J.A.C. 5:23-3.16(b)5i, in Section 300.4(A)(1) of the NEC/2002, entitled "Bored Holes," in the first sentence, "1 ¼ inches (32 mm)" is deleted and "32 mm (1 ¼ inches)" is inserted to follow the format of the NEC/2002.

IRC/2000

13. At N.J.A.C. 5:23-3.21(c)3viii, in the second sentence of Section R309.2 of the IRC/2000, entitled "Separation required," the term "a" is deleted to provide grammatical accuracy.

14. At N.J.A.C. 5:23-3.21(c)3xix, in Section R322.1 of the IRC/2000, entitled "Moisture control," Exception 3 is deleted. Exception 3 provides a cross-reference to Table N1101.2 of the IRC/2000, entitled "Climate Zones by States and Counties," which is in Chapter 13 of the IBC/2000. Chapter 13 has been deleted because all requirements for energy in New Jersey are provided in the adopted energy subcode of the Uniform Construction Code, N.J.A.C. 5:23-2.18. Therefore, a cross-reference to Table N1101.2 is not needed.

15. At N.J.A.C. 5:23-3.21(c)3xxi, in the first sentence of Section R327.1.8 of the IRC/2000, entitled "Manufactured housing," the phrase "and the anchor and tie-down

requirements of Sections AE604 and AE605 of Appendix E shall apply" is deleted because Appendix E of the IRC/2000 has not been adopted. Therefore, cross-references to sections in Appendix E are not needed.

16. At N.J.A.C. 5:23-3.21(c)4, a new section ii is inserted. This section deletes a reference to "Table R405.1" contained in Section R403.3.2, Drainage. Section R405, including Table R405.1, was not proposed for adoption and should not be referenced in other code sections.

17. At N.J.A.C. 5:23-3.21(c)5ii, the reference to "Table R602.10.3" has been changed to "Table R602.10.1." This corrects a misnumbering recently identified as errata in the IRC/2000.

18. At N.J.A.C. 5:23-3.21(c)7i, in Figure R1001.15 of the IRC/2000, entitled "Clearance from Combustibles," "12 IN. MIN." is changed to "6 IN. MIN." to provide consistency with the change made at Section R1003.12, Exception 3.

Federal Standards Statement

No Federal standards analysis is required because these amendments are not being adopted under the authority of, or in order to implement, comply with, or participate in any program established under Federal law or a State statute that incorporates or refers to Federal law, standards, or requirements.

Full text of the adoption follows (additions to proposal indicated in boldface with asterisks ***thus***; deletions from proposal indicated in brackets with asterisks *[thus]*):

5:23-2.15 Construction permits application

(a) – (d) (No change.)

(e) Plans, plan review, plan approval

1. Plans and specifications: The application for a permit shall be accompanied by no fewer than two copies of specifications and of plans drawn to scale, with sufficient clarity and detailed dimensions to show the nature and character of the work to be performed. Plans submitted shall be required to show only such detail and to include only such information as shall be reasonably necessary to ensure compliance with the requirements of the code and these regulations. When quality of materials is essential for conformity to the regulations, specific information shall be given to establish such

quality; and this code shall not be cited, or the term "legal" or its equivalent be used as a substitute for specific information.

i. – ix. (No change.)

x. Those portions of the *[design]* ***plans*** that are *[not]* ***required to be*** submitted ***and which are not included*** at the time of application shall be listed by the design professional as part of the application.

(1) All documents ***prepared by people other than the design professional*** shall be reviewed by the design professional and submitted with a letter indicating that they have been reviewed and found to be in conformance with the regulations for the design of the building.

xi. (No change.)

2. – 3. (No change.)

5:23-2.18 Inspections

(a) (No change.)

(b) Inspections during the progress of work:

1. The construction official and appropriate subcode officials shall carry out such periodic inspection during the progress of work as are necessary to *[insure]* ***ensure*** that work installed conforms to the approved plans and the requirements of the regulations.

i. – iii. (No change.)

iv. *[Special]* ***Additional*** inspection schedule: Where buildings posed for construction exceed two stories in height or by their nature pose complex or unusual

inspection problems, the construction official or appropriate subcode official may specify additional *[or special]* inspections to the applicant in writing prior to the issuance of a permit and during the construction in the case of unforeseeable circumstances. *[Where Class I structures incorporate construction techniques covered under the special inspection provisions of the building subcode, such special inspections shall be provided for. The applicant shall provide a list of special inspections required by the building subcode when applying for the permit.]*

(c) – (h) (No change.)

5:23-3.14 Building Subcode

(a) (No change.)

(b) The following chapters of the building subcode are modified as follows:

1. – 2. (No change.)

3. Chapter 3, Use and Occupancy Classification, shall be amended as follows:

i. In Section 302.3.3, Separated uses, the first sentence of Exception 2 shall be deleted and the following shall be inserted: "A private garage located beneath a room(s) shall have walls, partitions, floors, and ceilings separating the garage from the adjacent interior spaces constructed with not less than a one-hour fire resistance rating. Attached private garages shall be completely separated from the adjacent interior spaces and the attic area by a means *[or]* ***of*** ½-inch gypsum board or equivalent applied to the garage side."

ii. – vii. (No change.)

viii. Section 310, Residential Group R, shall be deleted and the following definitions shall be inserted:

(1) – (2) (No change.)

(3) R-3 Detached one-and two-family dwellings greater than three stories in height, multiple single-family townhouses greater than three stories in height, and attached two-family dwellings separated from adjacent units by firewalls, including:

Single residential occupancies, accessory to a dwelling unit, having no more than five roomers or lodgers**.*** (Single occupancies, accessory to a dwelling unit, having more than five roomers or lodgers shall be classified as Group R-2 or I-1, as appropriate.)

Adult and child day care facilities, accessory to a dwelling unit, serving five or fewer persons of any age for less than 24 hours.

Rooming houses with five or fewer residents**.***

Therapeutic residences with five or fewer residents**.***

(4) – (5) (No change.)

4. – 5. (No change.)

6. Chapter 5, General Building Heights and Areas, shall be amended as follows:

i. *[In]* Table 503, Allowable Heights and Building Areas, ***shall be amended as follows:*** *[the maximum allowable area for Group A-5, construction Types IIIB, IV, and VB shall be deleted. In addition, Use Group U shall be deleted.]*

***(1) Under construction Type VA for Group A-1, "2" shall be deleted and "1" shall be inserted.**

(2) Under construction Type IB for Group A-2, "11" shall be deleted and "3" shall be inserted. Under construction Types IIA and IIB for Group A-2, "3" and "2" shall be deleted and "2" and "1" shall be inserted, respectively. Under construction Types IIIA and IIIB for Group A-2, "3" and "2" shall be deleted and "2" and "1" shall be inserted, respectively. In addition, under construction Type IV for Group A-2, "3" shall be deleted and "2" shall be inserted. Finally, under construction Type VA for Group A-2, "2" shall be deleted and "1" shall be inserted.

(3) Under construction Type IB for Group A-3, "11" shall be deleted and "5" shall be inserted. In addition, under construction Type VA for Group A-3, "2" shall be deleted and "1" shall be inserted.

(4) Under construction Type IB for Group A-4, "11" shall be deleted and "5" shall be inserted. In addition, under construction Type VA for Group A-4, "2" shall be deleted and "1" shall be inserted.

(5) The maximum number of stories and maximum allowable area for Group A-5, construction Types IIIB, IV, VA, and VB shall be deleted

(6) Under construction Type IB for Group B, "11" shall be deleted and "7" shall be inserted. In addition, under construction Type IIB for Group B, "4" shall be deleted and "3" shall be inserted. Finally, under construction Type IIIA and IIIB for Group B, "5" and "4" shall be deleted and "4" and "3" shall be inserted, respectively.

(7) Under construction Type IB for Group F-1, "11" shall be deleted and "6" shall be inserted.

(8) Under construction Type IB for Group F-2, "11" shall be deleted and "7" shall be inserted.

(9) The maximum number of stories and maximum allowable area for Group H-2, construction Type VB shall be deleted and "NP" shall be inserted.

(10) Under construction Type IIIA for Group H-3, "4" shall be deleted and "3" shall be inserted.

(11) Under construction Type IIIA for Group H-4, "5" shall be deleted and "4" shall be inserted.

(12) The maximum number of stories and the maximum allowable area for Group I-3, construction Type VB shall be deleted and "NP" shall be inserted.

(13) Under construction Type IB for Group M, "11" shall be deleted and "6" shall be inserted. Under construction Type IIB for Group M, "4" shall be deleted and "2" shall be inserted. In addition, under construction Types IIIA and IIIB, "4" shall be deleted and "3" and "2" shall be inserted, respectively. Finally, under construction Type VA, "3" shall be deleted and "2" shall be inserted.

(14) Under construction Type IB for Group R-1, "11" shall be deleted and "9" shall be inserted. In addition, under construction Type IIB for Group R-1, "4" shall be deleted and "3" shall be inserted. Finally, under construction Type IIIB for Group R-1, "4" shall be deleted and "3" shall be inserted

(15) Under construction Type IB for Group R-2, "11" shall be deleted and "9" shall be inserted. In addition, under construction Type IIB for R-2,

"4" shall be deleted and "3" shall be inserted. Finally, under construction Type IIIB for Group R-2, "4" shall be deleted and "3" shall be inserted.

(16) Under construction Type IB for Group R-3, "11" shall be deleted and "4" shall be inserted. Under construction Type IIB for Group R-3, "4" shall be deleted and "3" shall be inserted. In addition, under construction Type IIIB for Group R-3, "4" shall be deleted and "3" shall be inserted. Finally, under construction Type VB for Group R-3, "3" shall be deleted and "2" shall be inserted.

(17) Under construction Type IB for Group R-4, "11" shall be deleted and "4" shall be inserted. Under construction Type IIB for Group R-4, "4" shall be deleted and "3" shall be inserted. In addition, under construction Type IIIB for Group R-4, "4" shall be deleted and "3" shall be inserted. Finally, under construction Type VB for Group R-4, "3" shall be deleted and "2" shall be inserted.

(18) Under construction Type IB for Group S-1, "11" shall be deleted and "5" shall be inserted. Under construction Type IIB for Group S-1, "3" shall be deleted and "2" shall be inserted. In addition, under construction Type IIIB for Group S-1, "3" shall be deleted and "2" shall be inserted. Finally, under construction Type VA for Group S-1, "3" shall be deleted and "2" shall be inserted.

(19) Under construction Type IB for Group S-2, "11" shall be deleted and "7" shall be inserted. Under construction Type IIB for Group S-2, "4" shall be deleted and "3" shall be inserted. In addition, under construction Type IIIB for Group S-2, "4" shall be deleted and "3" shall be inserted. Finally, under construction Type VA for Group S-2, "4" shall be deleted and "3" shall be inserted.

(20) Use Group U shall be deleted.

(21) At the end of the table, after "UL = Unlimited," "NP = Not permitted" shall be inserted.*

ii. (No change.)

iii. Section 507.3, Two-story, shall be amended as follows: In the first sentence, "building of Type I or Type II construction under *[Use]*" shall be inserted after "two-story."

7. – 8. (No change.)

9. Chapter 9, Fire Protection Systems, shall be amended as follows:

i. – iii. (No change.)

iv. Section 903.2.12.1, Stories and basements without openings, shall be deleted in its entirety and Section 904.10 of the 1996 BOCA National Building Code shall be inserted as follows: "Windowless story: An automatic fire sprinkler system shall be provided throughout every story or basement of all buildings where there is not provided at least one of the following types of openings:

1. An exterior stairway *[the]* ***that*** conforms to the requirements of Section 1005.3.6, or an outside ramp that conforms to the requirements of Section 1003.3.4, leading directly to grade in each 50 linear feet (15240 mm) or fraction thereof of exterior wall in the story or basement, on at least one side of the building.

2. (No change.)

v. New Section 903.2.16, Automatic sprinkler system thresholds, shall be inserted as follows: "An automatic sprinkler system shall be required in accordance with Section 903.3.1.1 when the maximum area is exceeded for the following construction types of Groups B, F-2, and S-2 according to table 903.2.16, Automatic Sprinkler System

Thresholds. All others not listed shall follow the applicable requirements as set forth in the IBC/2000."

"Automatic Sprinkler System Thresholds

Group B	IIB	IIIB	VB
Story	Max. Area	Max. Area	Max. Area
1	36,000	*	*
2	72,000 ***(36,000 per floor)***	*	*
3	99,360 ***(36,000 per floor)***	99,360 ***(36,000 per floor)***	*

Group F-2	IIB	IIIB	VB
Story	Max. Area	Max. Area	Max. Area
1	36,000	*	18,000
2	72,000 ***(36,000 per floor)***	*	36,000 ***(18,000 per floor)***
3	99,360 ***(36,000 per floor)***	*	*

Group S-2***[a]***	IIB	IIIB	VB
Story	Max. Area	Max. Area	Max. Area
1	36,000	36,000	18,000
2	72,000 ***(36,000 per floor)***	72,000 ***(36,000 per floor)***	36,000 ***(18,000 per floor)***
3	99,360 ***(36,000 per floor)***	99,360 ***(36,000 per floor)***	*

a. Exception – Open parking structures in accordance with Section 406.3

* Requirements as set forth in the IBC/2000"

vi. – ix. (No change.)

x. Section 906.0, Portable Fire Extinguishers, shall be deleted in its entirety and new Section 906.0, entitled "Fire Department Connections," from Section 916.0 of the 1996 BOCA National Building Code shall be inserted as follows: "906.1 Required: All required water fire-extinguishing and standpipe systems shall be provided with a fire department connection in accordance with the applicable standards. Standpipes in buildings under construction or demolition shall conform to Section 3311.

Exceptions

1. Limited area sprinkler systems *[applied]* **<u>*supplied*</u>** from the domestic water system.

2. Where the local fire department approves a single connection for a large diameter hose of at least four inches (102mm).

3. An automatic sprinkler system with less than 20 sprinklers

906.2 Connections: Fire department connections shall be arranged in such a manner that the attachment to any one sprinkler connection will serve all sprinklers, and the attachment to any one standpipe connection will serve all standpipes within the building.

<u>*Exception: Fire protection systems in high rise buildings designed with a low zone and a high zone may be provided with a connection for each zone.*</u>

906.3 Location: Fire department connections shall be located and shall be visible on a street front or on a location approved by the fire department. Such connections shall be located so that immediate access is provided to the fire department.

Fire department connections shall not be obstructed by fences, bushes***,*** trees, walls, or any other similar object.

906.4 Height: Fire department connections shall not be less than 18 inches (457mm) and more than 42 inches (1,067mm) in elevation, measured from the ground level to the centerline of the inlets.

906.5 Projection: Where the fire department connection will otherwise project beyond the property line or into the public way, a flush-type fire department connection shall be provided.

906.6 Hose thread: Hose thread in the fire department connection shall be uniform with that used by the local fire department.

906.7 Fittings: Fire department inlet connection shall be fitted with check valves, ball drip valves and plugs with chains or frangible clips.

906.8 Signs: A metal sign with raised letters at least one inch (25mm) in height shall be mounted on all fire department connections serving sprinklers or standpipes. Such signs shall read "Automatic Sprinklers" or "Standpipes," or both, as applicable."

xi. – xiii. (No change.)

10. Chapter 10, Means of Egress, shall be amended as follows:

i. – vii. (No change.)

viii. In ***the title of*** Section 1004.3.2.2,*[Corridor width, "passageway"]* ***"and passageway"*** shall be inserted after *["corridor"]* ***Corridor***." ***In addition, in the first sentence, "or passageway" shall be inserted after "corridor."***

ix. – xiii. (No change.)

11. – 12. (No change.)

13. Chapter 15, Roof Assemblies and Rooftop Structures, shall be amended as follows:

i. In Table 1505.1, Minimum Roof Covering Classification for Types of Construction, ***Note a shall be deleted in its entirety. In addition,*** at Note b, "and U occupancies" shall be deleted from the first sentence.

14. Chapter 16, Structural Design, shall be amended as follows:

i. – ii. (No change.)

iii. New Section 1604.9, General structural integrity, from Section 1604.2 of the 1996 BOCA National Building Code, shall be inserted as follows: "The requirements for general structural integrity shall be in accordance with Section 1.4 of ASCE 7 listed in Chapter 35."

Recodify iii. through xii. as iv. through xiii. (No change in text.)

15. – 19. (No change.)

20. Chapter 31, Special Construction, shall be amended as follows:

i. – ii. (No change.)

iii. Section 3109, Swimming Pool Enclosures, shall be deleted in its entirety and the following shall be inserted:

"3109

SWIMMING POOLS, SPAS AND HOT TUBS

3109.1 General. The provisions of this *[appendix]* ***section*** shall control the design and construction of swimming pools, spas and hot tubs *[installed in or on the lots of one– or two–family dwellings]*.

3109.7.1 Outdoor swimming pool. An outdoor swimming pool, including an in–ground, aboveground or on–ground pool, hot tub or spa shall be provided with a barrier which shall comply with the following:

1. – 8. (No change.)

9. Where an aboveground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure, and the means of access is a ladder or steps, then:

[9.1. The ladder or steps shall be capable of being secured, locked or removed to prevent access, or]

[9.2.] ***9.1.*** The ladder or steps shall be surrounded by a barrier that meets the requirements of Section AG105.2, Items 1 through 9. When the ladder or steps are secured, locked or removed, any opening created shall not allow the passage of a four–inch–diameter (102 mm) sphere.

3109.8 Barrier exceptions. Spas or hot tubs with a safety cover that complies with ASTM F 1346, as listed in Chapter 35, shall be exempt from the provisions of this section.

3109.9 Enclosures for public swimming pools, spas and hot tubs. Public swimming pools shall be completely enclosed by a fence at least four feet (1,290 mm) in height or a screen enclosure. Openings in the fence shall not permit the passage of a 4-inch (102 mm) diameter sphere. The fence or screen enclosure shall be equipped with self-closing and self-latching gates."

21. (No change.)

22. Chapter 33, Safeguards During Construction, shall be amended as follows:

i. (No change.)

[ii. In Section 3308.1, Storage and handling of materials, "authority having jurisdiction" shall be deleted and "construction official" shall be inserted.]

Recodify iii. as ii. (No change in text.)

23. – 25. (No change.)

N.J.A.C. 5:23-3.16 Electrical subcode

(a) (No change.)

(b) The following chapters or articles of the electrical subcode are amended as follows:

1. – 4. (No change.)

5. Chapter 3 of the electrical subcode, entitled "Wiring Methods," is amended as follows:

i. Section 300.4(A)(1) is amended to delete the words from "so that the edge…" on line four through "…cannot be maintained" on line six and in lieu thereof substitute "as required by the building subcode. Where the distance from the edge of the hole to the nearest edge of the wood member is less than *[1 ¼ inches (32 mm)]* ***32 mm (1 ¼ inches)*** ."

ii. (No change.)

6. (No change.)

N.J.A.C. 5:23-3.21 One- and two-family dwelling subcode

(a) (No change.)

(b) The provisions of this subcode shall apply to the construction, alteration, repair, or increase in size of detached one-or two-family dwellings, or single family townhouses, of *[Use Group R-4]* *Group R-5*, of Type 5B construction that are not more than two stories or 35 feet in height and no more than 4,800 square feet in area per floor. For the purpose of applying this section, a habitable attic shall not constitute a story. A habitable attic shall be an attic which has a stairway as a means of access and egress and in which the ceiling area at a height of seven feet above the attic floor is not more than one-third the area of the next floor below.

(c) The following chapters or sections of the IRC/2000 shall be modified as follows:

1. – 2. (No change.)

3. Chapter 3, Building Planning, shall be amended as follows:

i. – ii. (No change.)

iii. Table R301.2(1), Climatic and Geographic Design Criteria, shall be amended as follows:

Table No. 301.2(1)

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

[Roof] ***Ground*** Snow Load (lbs./sq. ft.) from	Wind Speed (mph)	Seismic Design Category	Subject to Damage from Weathering	Frost Line Depth	Subject to Damage Termite	Subject to Damage Decay
20 See note 4	See fig. R301.2(4)	N/A	Severe See Note 1	2 feet-6 inches (Southern Area) 3 feet-0 inches (Northern Area) See notes 2, 3, and 4	Moderate to Heavy	Slight to Moderate

Notes:

1. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy structural requirements of this code. The grade of masonry units shall be determined from the ASTM C34, C55, C62, C73, C90, C129, C145, C216, or C625 listed in Chapter 43.

2. The frost line depth may require deeper footings than indicated in *[Figure R403.1(1)]* ***Section R403.1.4***. The jurisdiction shall fill in the frost line depth column with minimum depth of footing below *[finish]* ***finished*** grade.

3. New Jersey is divided into two zones: Zone *[one]* ***1*** consists of Monmouth and Burlington Counties and all counties to the south. Zone 2 consists of Mercer and Middlesex Counties and all counties to the north.

4. The enforcing agency having jurisdiction may establish values other than the ones listed for "*[roof]* ***ground*** snow load," and "frost line depth" if warranted by documented local climatic and geographic conditions."

iv. – vii. (No change.)

viii. Section R309.2, Separation required, shall be deleted and the following shall be inserted: "Private garages located beneath rooms shall have walls, partitions, floors and ceilings separating the garage from the adjacent interior spaces constructed with not less than a one-hour fire resistance rating ***(see N.J.U.C.C. FTO-13)***. Attached private garages shall be completely separated from the adjacent interior spaces and the attic area by *[a]* means of ½-inch gypsum board or equivalent applied to the garage side."

ix. – xiii. (No change.)

xiv. Section *[R315]* ***R315.1***, Handrails, shall be deleted *[in its entirety]* and Section*[s]* 315.1, Handrails, of the 1995 edition of the Council of American Building Officials One- and Two-Family Dwelling Code (1995 CABO One- and Two-Family Dwelling Code) shall be inserted as follows: "Handrails. Handrails having minimum and maximum heights of 30 inches and 38 inches (762 mm and 965 mm), respectively, measured vertically from the nosing of the treads, shall be provided on at least one side of stairways of three or more risers. Spiral stairways shall have the required handrail located on the outside of the radius. All required handrails shall be continuous the full length of the stairs. Ends shall be returned or shall terminate the newel posts or safety terminals. Handrails adjacent to a wall shall have a space not less than 1 ½ inches (38 mm) between the wall and the handrail.

Exceptions:

1. Handrails shall be permitted to be interrupted by a newel post at a turn.

2. The use of a volute, turnout, or starting easing shall be allowed over the lowest tread."

xv. – xviii. (No change.)

xix. In Section R322.1, Moisture control, Exception 3 shall be deleted.

***Recodify xix. as xx. (No change in text.)**

xxi. In Section R327.1.8, Manufactured housing, "and the anchor and tie-down requirements of Section AE604 and AE605 of Appendix E shall apply" shall be deleted.

4. Chapter 4, Foundations shall be amended as follows:

i. (No change.)

ii. In Section R403.3.2 of the IRC/2000, Drainage, in the second sentence, "as detailed in Table 405.1" shall be deleted.

Recodify ii. through iv. as iii. through v. (No change in text.)

5. Chapter 6, Wall Construction, shall be amended as follows:

i. (No change.)

ii. In Table R602.10.*[3]* ***1*** , Wall Bracing, under the column "Seismic Design Category or Wind Speed," at Category D_1 and D_2, "less than 110 mph" shall be deleted and "less than 120 mph" shall be inserted. ***In addition, the fourth row of Table R602.10.1 shall be deleted in its entirety.***

iii. – iv. (No change.)

6. (No change.)

7. Chapter 10, Chimneys and Fireplaces, shall be amended as follows:

i. (No change.)

***ii. In Figure 1001.15, Clearance from Combustibles, "12 IN. MIN." shall be deleted and "6 IN. MIN." shall be inserted.**

***Recodify ii. as iii. (No change in text.)**

8. – 12. (No change.)

13. ***Part IX, Chapter 42, Referenced Standards, shall be amended as follows:**

i. Under the subheading, NFPA, "NFPA 13-96, Installation of Sprinkler Systems," shall be dleted and "NFPA 13-99, Installation of Sprinkler Systems; NFPA 13D-99, Installation of Sprinkler Systems in One- and Two-Family Dwellings and manufactured Homes; and NFPA 13R-99, Installation of Sprinkler Systems in residential Occupancies Up To and Including Four Stories in height" shall be inserted.

14.* The Appendices shall be amended as follows:

i. – iii. (No change.)

iv. In Appendix G, Section AG105.2, Outdoor swimming pool, Provision 9 shall be deleted in its entirety. ***In the same section, under Provision 10, Item 10.1 shall be deleted. Item 10.2 shall be renumbered as 10.1.***

v. (No change.)